

Power-hungry on the Missouri

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Replacing shortfall may cost \$240M

The mammoth concrete spillways at Oahe, Lewis and Clark and other Missouri River reservoirs are often dry this spring, the humming generators at their dams producing dramatically less power than normal.

The river's six dams will produce the smallest amount of electricity in more than 30 years. The shortfall is forcing the federal government to buy up to \$240 million worth of electricity at inflated market prices.

And, if conditions don't change, higher prices could filter down through cooperatives and municipal power companies to farmers, urban homeowners and businesses that purchase the Missouri River-generated electricity during the next few years.

An ironic combination of water problems -- too much pouring in from tributary streams from Yankton to St. Louis, but not enough from the all-important mountain snow melt in the upper river basin -- means the six Missouri River hydroelectric dams aren't generating enough power to meet commitments to rural-electric cooperatives and cities in the region.

Because of high water on the Missouri downstream from South Dakota, the U.S. Army Corps of Engineers has reduced releases from the dams this spring to prevent flooding. That also reduced power generation.

At the same time, the snowmelt coming out of the mountains in Wyoming and Montana is about two-thirds of normal. So there will be less water to be released and generate power throughout the summer and fall.

And that will put the Western Area Power Administration, a federal agency that markets the hydroelectric power produced by the dams, in the position of buying power while prices are inflated by the California energy crisis.

"The drought is of great concern right now. That means we're out on the market buying. And right now, the market is fairly high," said WAPA official Bob Riehl of Billings, Mont. "Anytime we increase costs that affects our rates."

Regular purchasers of Missouri River power pay about 1.5 cents to 1.9 cents per kilowatt hour, which is about what it costs to produce. A more typical rate on the energy market is 4 cents per kilowatt hour, and lately it has risen to 6 cents, Riehl said.

The U.S. Army Corps of Engineers estimates that Missouri River dams will fall about 4 billion kilowatt hours short of normal power generation this year. If WAPA has to buy that at 6 cents per kilowatt hour, the cost will be about \$240 million.

The agency already has spent \$140 million to buy power since the federal fiscal year began Oct. 1. By comparison, WAPA spent a total of \$57 million, \$38 million and \$25 million in the three years prior to this one, said Dale Strege, power marketing manager for WAPA in Watertown.

"We've spent a lot of money already," Strege said.

Eventually, the premium rate WAPA pays to compensate for lost power on the river could be passed on to consumers. But it won't be this year. WAPA is operating under price contracts with its buyers, and those won't change for a while, Riehl said.

"We've been through some pretty good water years recently, so we've got somewhat of a cushion," he said. "It usually takes one, two or three years before it has a serious rate impact."

So both WAPA and the Corps of Engineers, which operates the Missouri River dams, are hoping dry conditions in the upper basin don't continue.

Corps water specialists are projecting the lowest total power generation for the Missouri River system this year since record keeping began in 1967.

The system already has set a lowest-ever mark for power generation in the month of May.

The six dams on the main stem of the Missouri River -- four in South Dakota, one in North Dakota and one in Montana -- generated 317 million kilowatt hours in May. That is 37 percent

of normal.

The corps is projecting total power generation for the year at 6.2 billion kilowatt hours. Normal is about 10.2 billion.

An official for East River Power Cooperative in Madison, which buys power for 250,000 people in eastern South Dakota and western Minnesota, said the cooperative gets about 46 percent of its power from the Missouri River system.

And it's a much better buy than power on the open market.

"It's about 40 percent cheaper for us. That's an important power source," said Scott Parsley, assistant general manager for member services at East River. "So we're concerned about anything that affects power generation on the river.

"In the immediate time frame, this doesn't have an impact on us. But in the out years, as WAPA does their budget next year, they'll need to look at recovering that revenue."

Affordable power

The generators at the Missouri River dams were intended to provide dependable, affordable power to farms, rural towns and cities. Hydropower generation was one of the priority benefits under the 1944 Flood Control Act that authorized the Pick-Sloan Missouri Basin Program, including the dams.

Other benefits were flood control, irrigation development, commercial navigation and municipal and industrial water supplies. Recreation and fish and wildlife enhancement also were considered benefits, although not as much a priority then as they are becoming today.

The six dams on the Missouri generate power that is transmitted to priority users in all of South Dakota and North Dakota and parts of Iowa, Montana, Minnesota and Nebraska.

Although South Dakota has the most dams, it doesn't use the most Missouri River power. Nebraska has one of the largest power allocations, particularly in the summer, when 38 percent of all the

river-generated electricity goes to that state.

In the winter months, North Dakota users have the largest allocation, 25 percent.

South Dakota gets 18 percent of the power in both summer and winter.

Riehl said that the large summer allocation began because of the greater use of air conditioners in Nebraska.

"If you go back in history, Nebraska has always been a summer peaker," he said. "And northern states were winter peakers. There weren't as many air conditioners in the north, although that has been changing over the years."

Wildlife, barges

Generating electricity is just one of the Missouri River activities being weighed as the U.S. Army Corps of Engineers works to update its water-control manual.

The amount of water flowing through the dam system at any time also impacts endangered species which live along the river. In addition, officials are trying to balance flood control, recreational needs and dependable water flows for commercial barges in states below South Dakota.

Last fall, the Fish and Wildlife Service encouraged the Corps of Engineers to alter its river management to create flows that provide some similarity to the natural river patterns. That's generally higher flows in the spring and lower flows in the summer.

River wildlife species such as the sturgeon and the piping plover adapted to those patterns and suffered when they were dramatically changed.

But mimicking natural flows could cost the hydropower industry as much as \$30 million, and that could mean higher electric rates to consumers, power advocates say.

Corps officials are working on a response to the Fish and Wildlife Service's biological opinion, which should be completed sometime in the next month. By the end of August, the corps plans to have incorporated that response into an overall preferred alternative for updating its master water-control manual, the management book for the river system.

Power for tribes

The Indian tribes along the river, many of whom lost significant land holdings and even communities to the river, have not until recently begun to benefit directly from the cheaper power.

Strege said the original requirement for allocated purchases of the power required buyers to be utilities. That limited customers largely to cooperatives and municipal utilities, he said.

"The tribes obviously weren't a utility," he said.

During recent times, however, Congress recognized that inequity and pushed for inclusion of the tribes in the power grid. WAPA accomplished that, beginning this year, with a policy alteration that takes about 4 percent of the power allocation away from long-standing buyers and sends it to the tribes.

But that 4 percent must be divided among 27 tribes, which waters down the benefits, said Gregg Bourland, chairman of the Cheyenne River Sioux Tribe in north-central South Dakota.

Bourland said congressional records back in the early 1940s show that the tribes were supposed to be included in the original allocations of Missouri River power. But by the 1950s, when the dams were being built and coming on line, the federal government was ignoring that promise, Bourland said.

"The federal government had this idea that tribal rights would be eliminated, that the tribes would be assimilated and that they would just kind of dry up and blow away," Bourland said. "Instead, we dug in our heels and put our roots down even deeper."

For years, the Cheyenne River Tribe has received some Missouri River power through a non-tribal electric cooperative, but at market rates. Now the tribe's reduced-rate power is still flowing through the distribution system of that cooperative, but with a service charge, Bourland said.

"The tribe is passing that power on at cost, without profiting, to the needy on the reservation," Bourland said. "But because of the surcharge we have to pay, the tribal members aren't seeing the kind of reductions they expected. Some of them are very unhappy about that."

Bourland said he hopes the tribe eventually will take charge of all power delivery on the reservation.

"That's what I'm working for," he said.

Sioux Falls energy

At the time the Missouri River dams were built, some potential buyers chose not to take a power allocation, or to take a very small one.

Sioux Falls residents, for example, use very little WAPA power. In 1999, the city bought about 45 million kilowatt hours.

That electricity is used by the Sioux Falls Arena, city libraries and City Hall and operates the water distribution system.

And there are about 1,500 residential customers who get WAPA power through the city.

But Xcel Energy, formerly Northern States Power, is the major supplier of power in the city.

"In Sioux Falls, your allocation is very small, considering the size of the city," Strege said.

Other South Dakota cities including Brookings, Pierre and Watertown use significant amounts of power from the Missouri River dams.

There was some controversy about the government-supplied power when the Missouri River dams were being built, Strege said. Some people, including power company officials, argued that the power system was not a good idea.

"From what I've heard, there was a big argument that the government should not be involved. And I think that went a long way with some people, not very far with others," Strege said. "Consequently, there were a number of municipalities that did not request an allocation."

Those who got allocations at that time -- cooperatives and municipalities -- became part of a network of "firm" buyers. The recently included Indian tribes now join that list.

And the power allocations of the firm customers must be met by WAPA each year, even if it means buying additional power.

On good years, that isn't necessary. When there's plenty of water surging through the generators of the dams, and plenty of power produced, WAPA can meet its firm obligations and even sell some power on the open market.

That won't happen this year. And next year is an open question.

As usual, a lot depends on the weather.